FIGURE 1
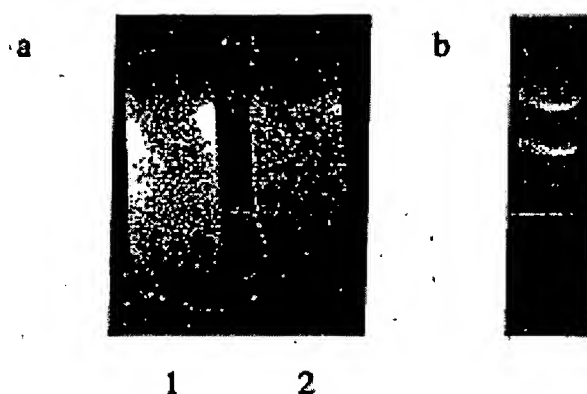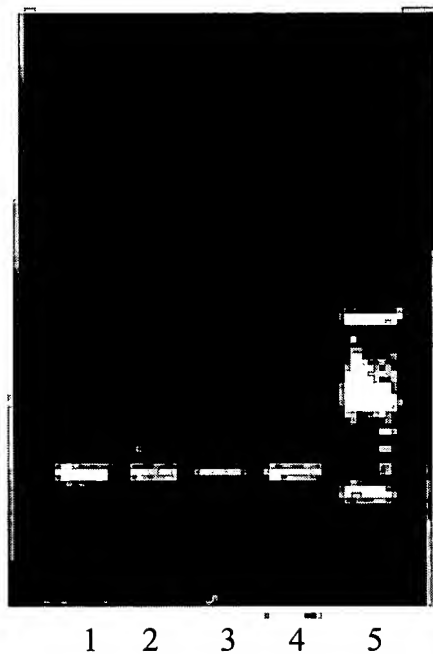

c

1. Alpha-1-antitrypsin

2. Bone Morphogenetic Protein 2

3. Cytokeratin 6

4. Lambda Light Chain
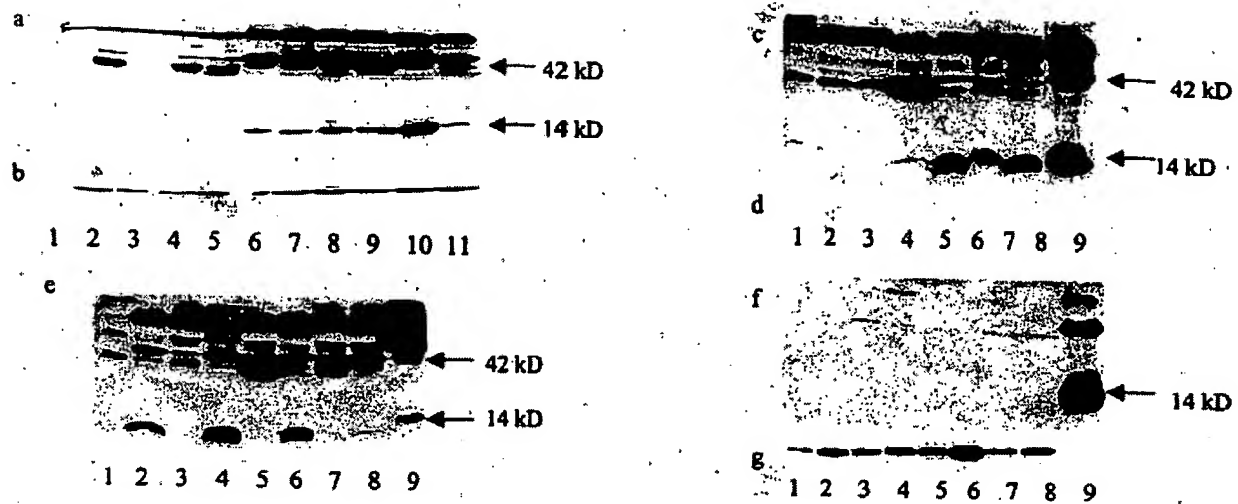
BEST AVAILABLE COPY

FIGURE 2

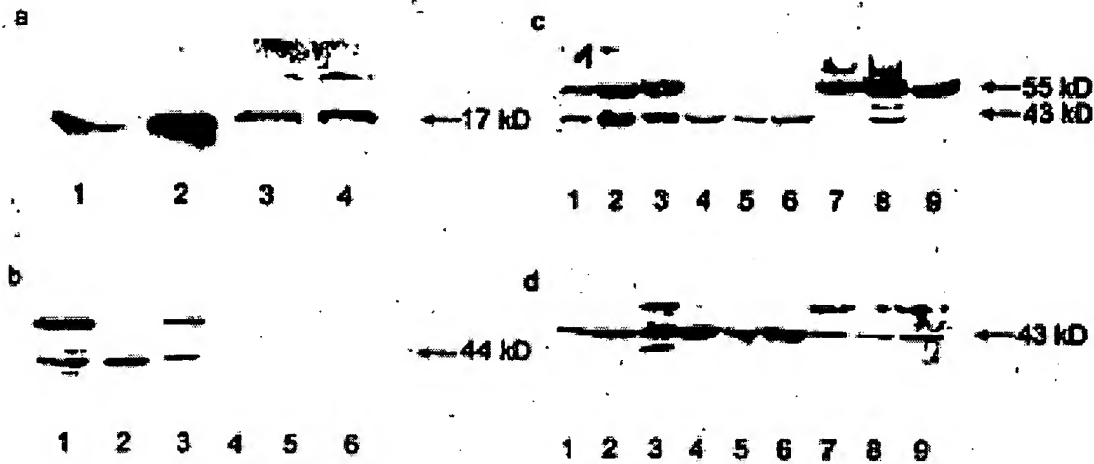RT-PCR for BMP-2 in Human Lung Tumors
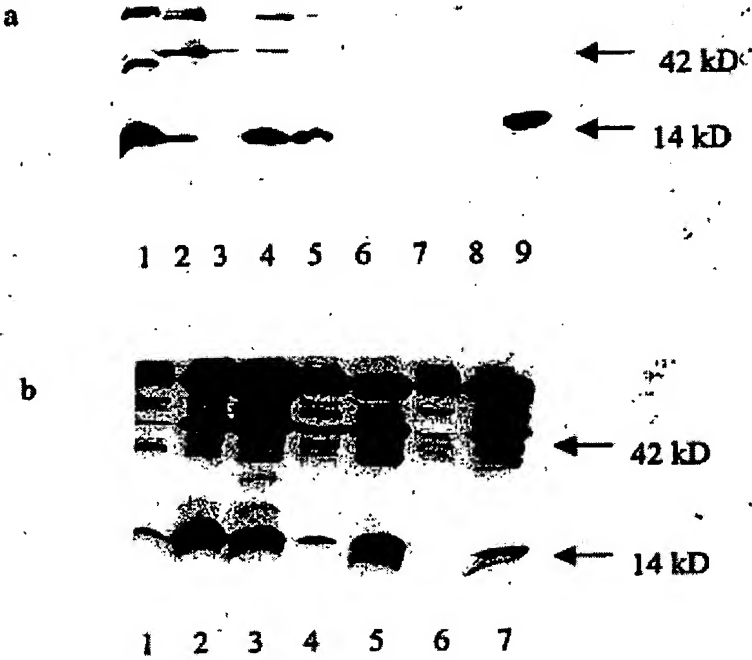
FIGURE 3
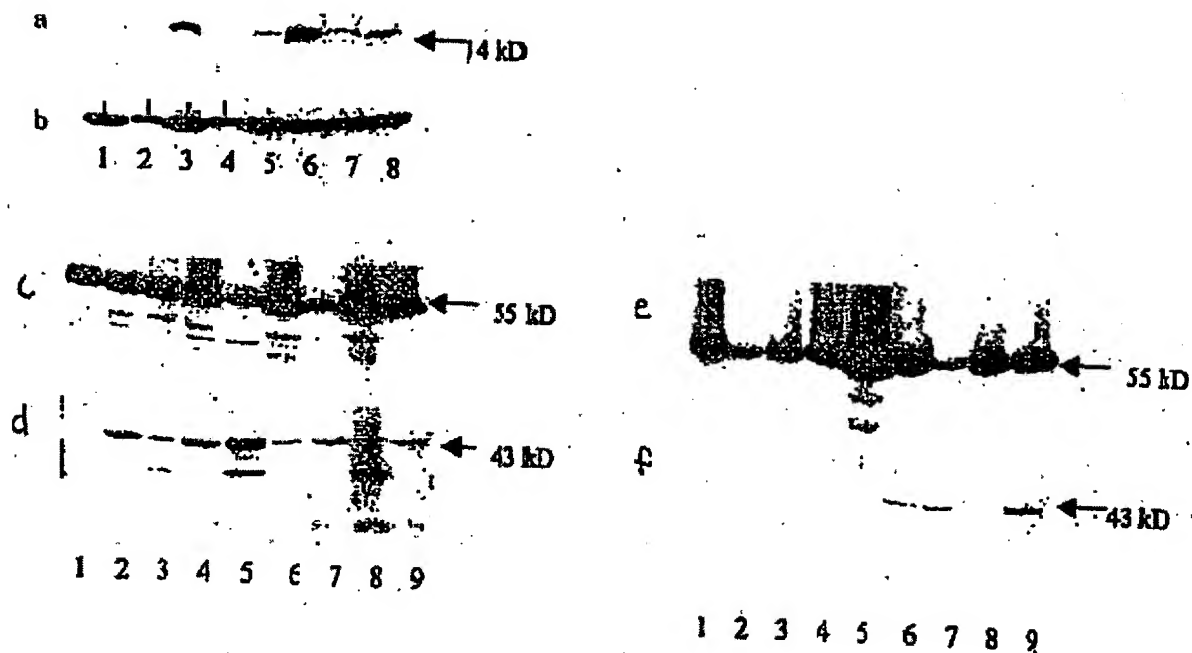
FIGURE 4
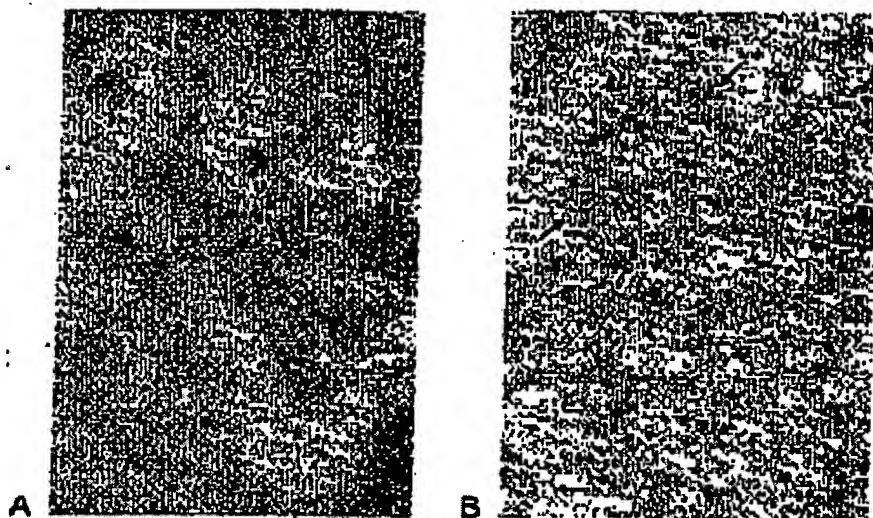
FIGURE 5

FIGURE 6

FIGURE 7

FIGURE 8

Western Blot of Serum Samples of Lung Cancer Patients

1   2   3
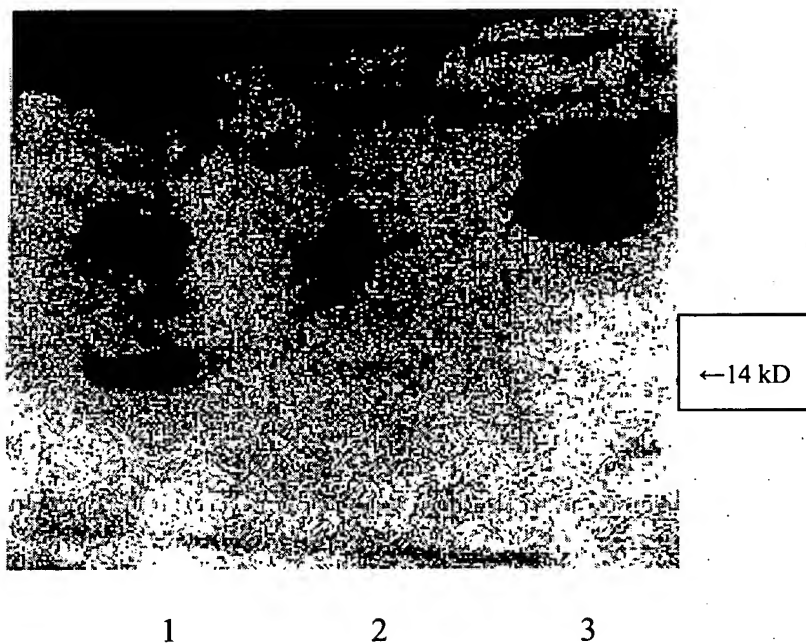
FIGURE 9

FIGURE 10

BMP Enhances Blood Vessel Formation as Compared to Controls

FIGURE 11

BMP-2 Enhances Tumor Vasculature

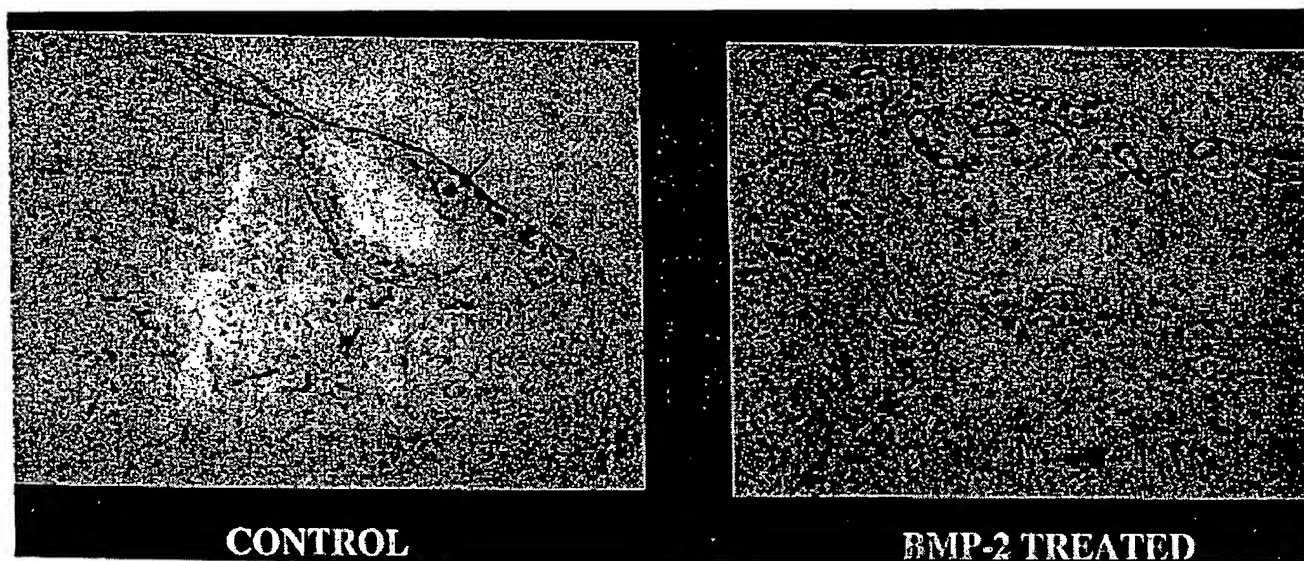CONTROL   BMP-2 TREATED
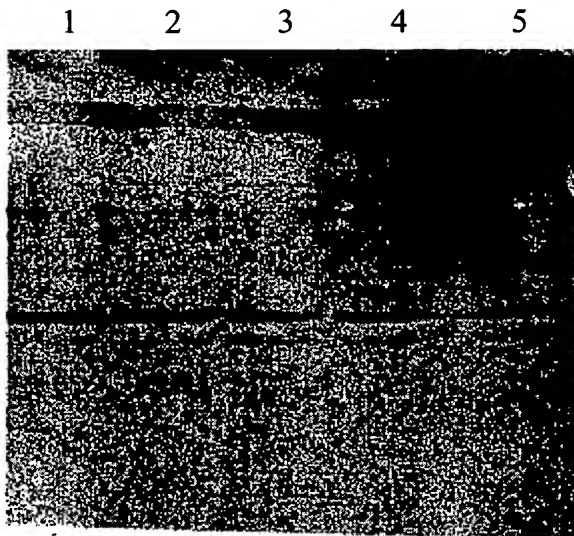
FIGURE 12

BMP-2 Regulated Sonic Hedgehog

12(a)

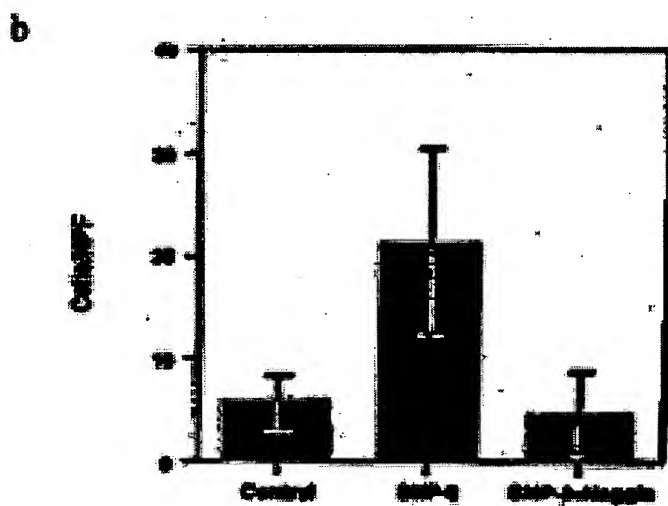12(b)

BEST AVAILABLE COPY

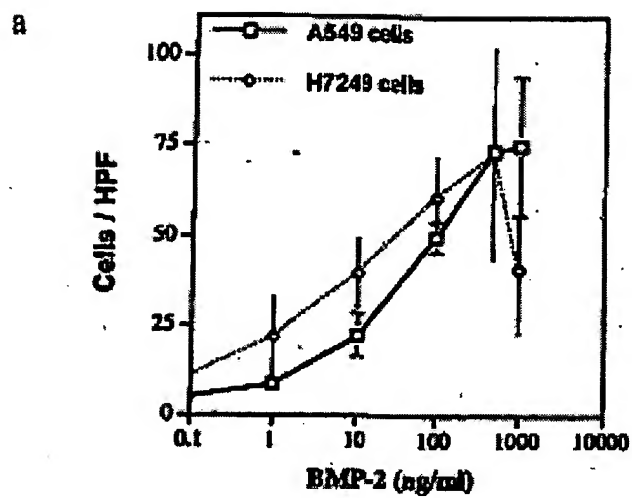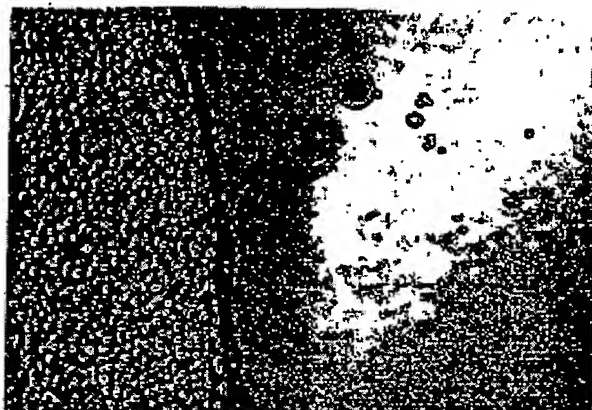# FIGURE 13(a) and 13(b)
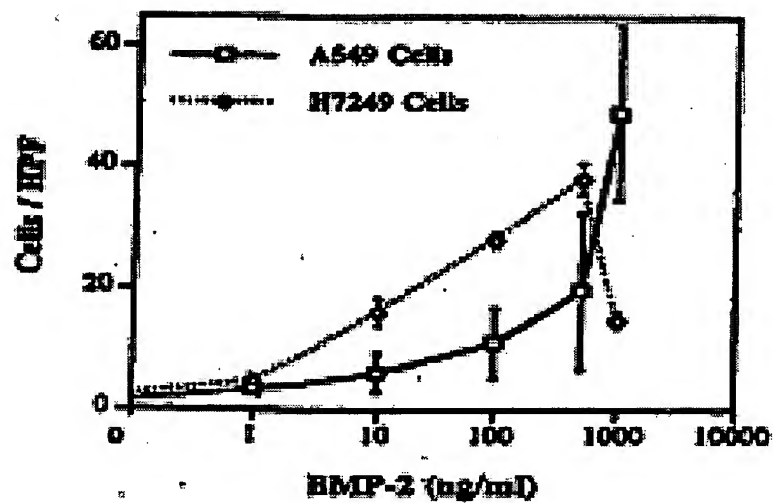
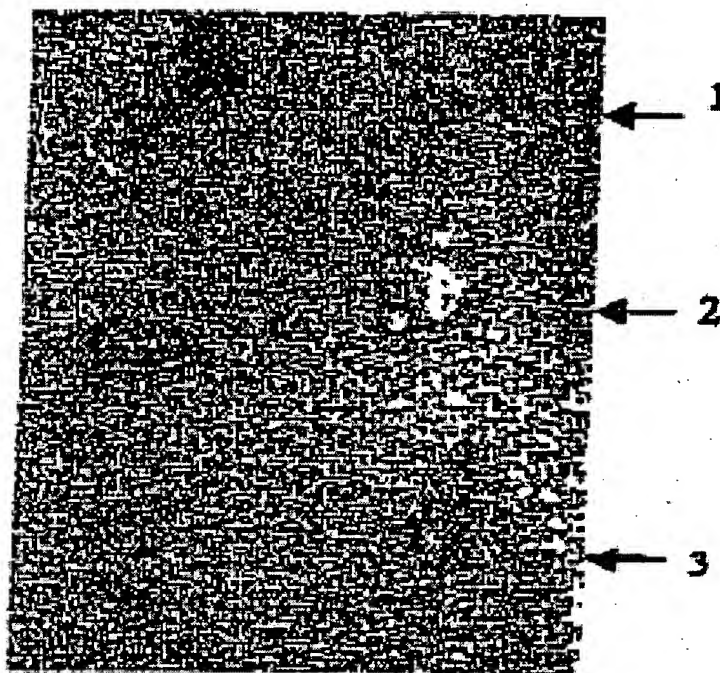# FIGURE 13 (c) and 13 (d)
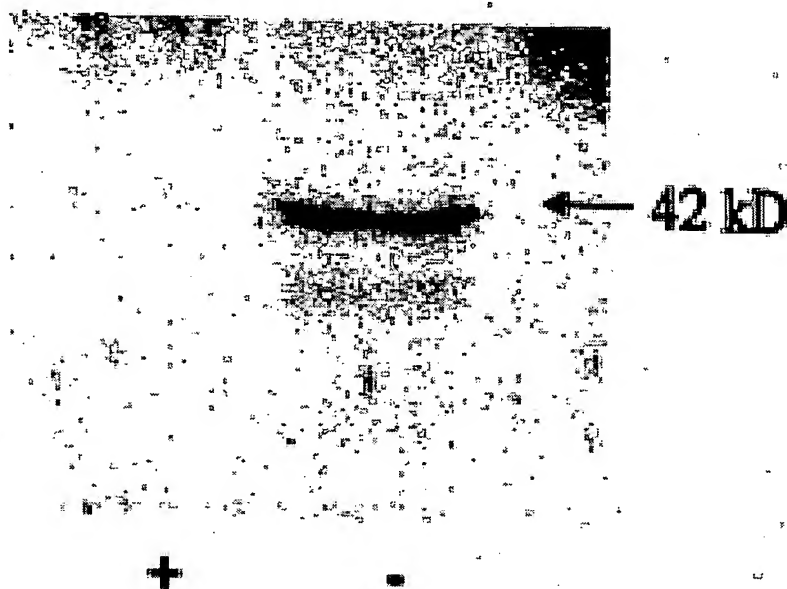
13(c)

13(d)

FIGURE 13(e)

FIGURE 14

FIGURE 15

Noggin Inhibits VEGF Expression in the A549 Lung Cancer Cell Line

15(a)

15(b)

	Secreted VEGF (ng/ml)
A540 + PBS	13,333
A549 + 300 ng/ml noggin	9,442
A549 + 500 ng/ml noggin	8,219

FIGURE 16

FIGURE 17

FIGURE 18

A

1   2   3

C

B

FIGURE 19

A

BMPR- IA   IB   II

← 42 kD

← 32 kD

B

pSmad

Id-1

pERK-1/2

Actin

0   10   20   40   60   120

C

pSmad

Id-1

pERK-1/2

Actin

0   10   20   40   60   120   **Minutes**

D

Smad 1/5/8

1   2

FIGURE 20(a)

Control	**BMP-2**	**BMP-2 + Noggin**	**Blocking Peptide**	
(a)	**(b)**	**(c)**	**(d)**	
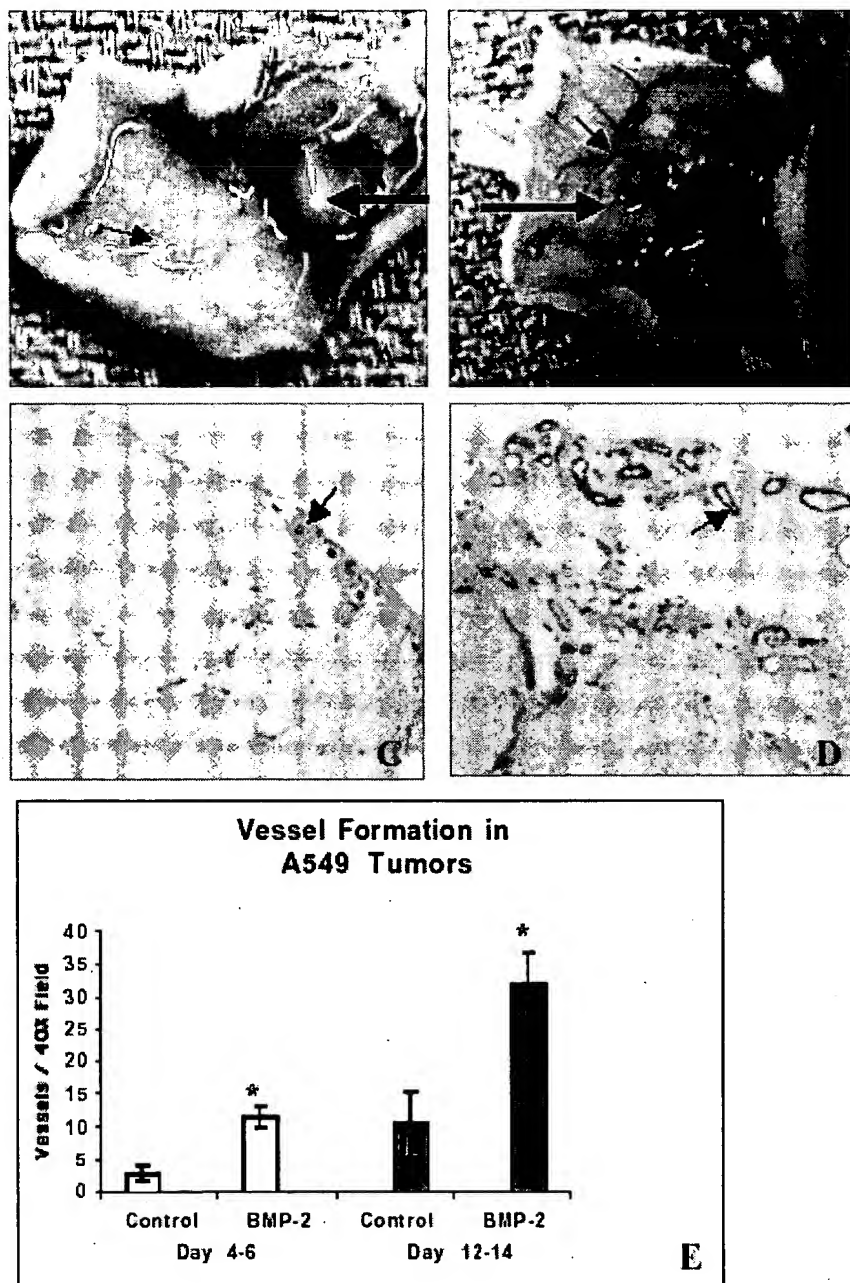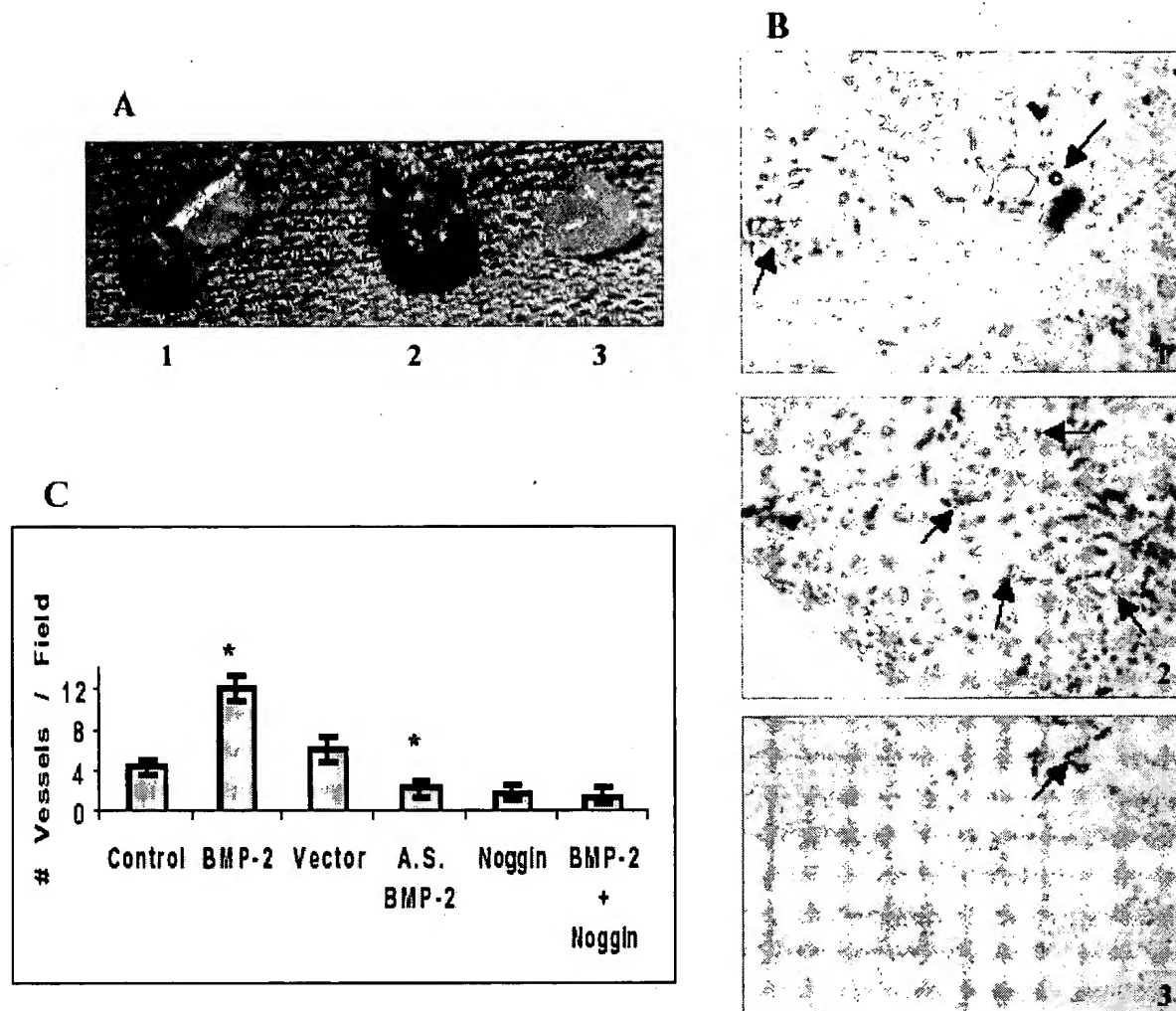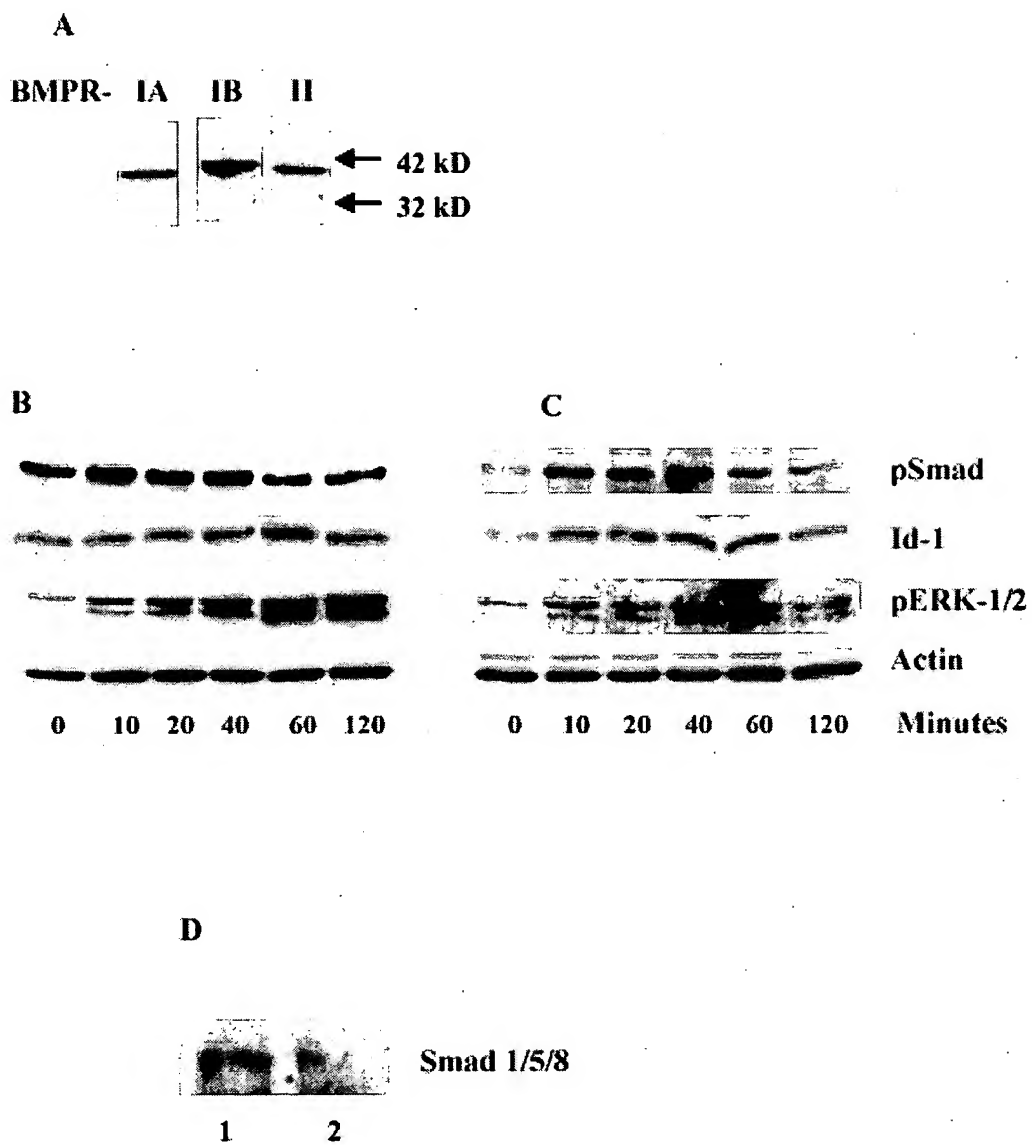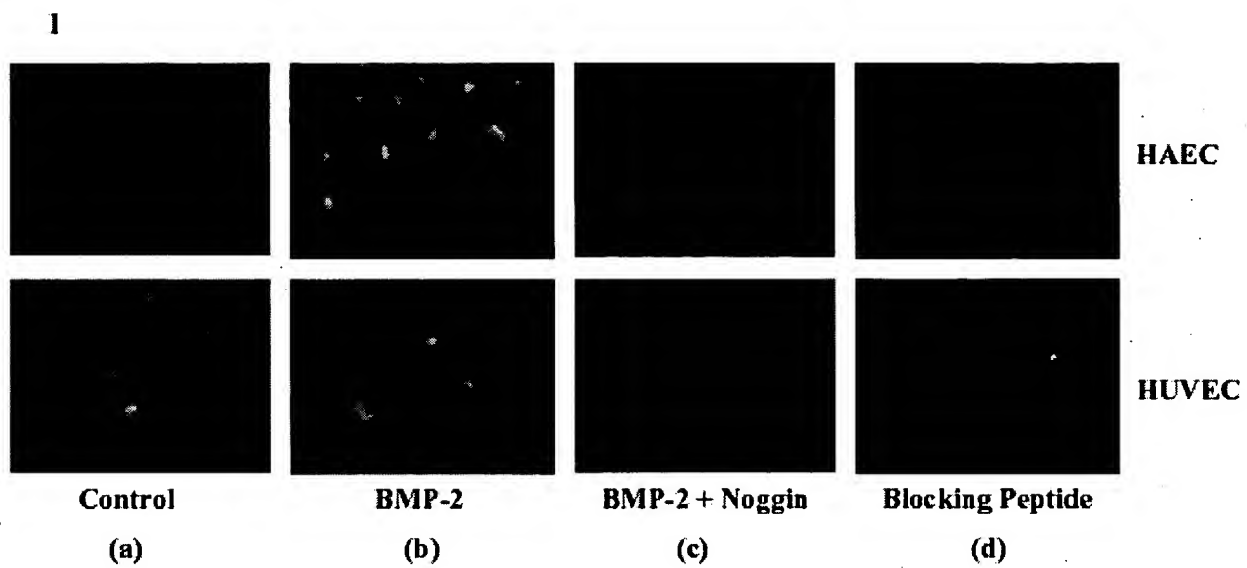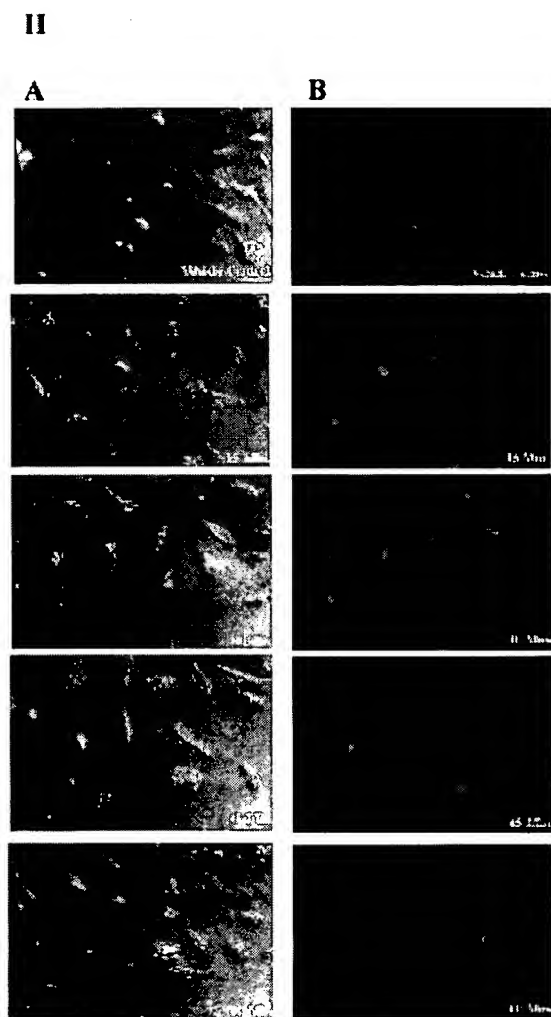
FIGURE 20(b)

FIGURE 20(c)

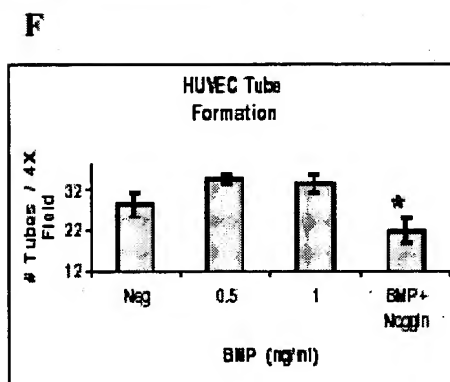|	HAEC % Cells w/ Smad 1/5/8 Nuclear Staining	HUVEC % Cells w/ Smad 1/5/8 Nuclear Staining
Vehicle Control	8.0	12.5
15 Min	17.2	20.4
30 Min	44.9	43.8
45 Min	19.4	18.4
60 Min	9.0	11.4

FIGURE 21
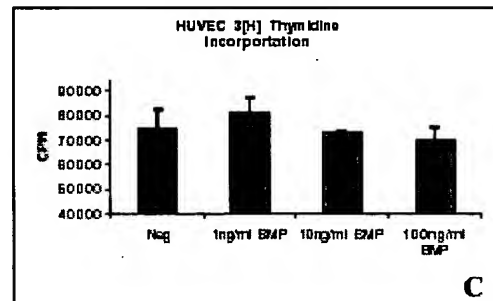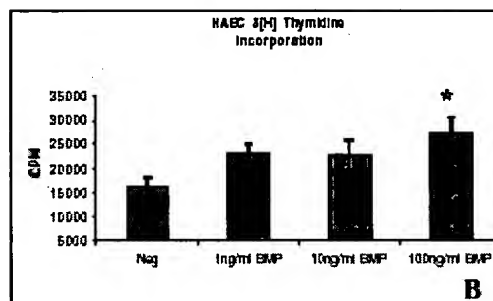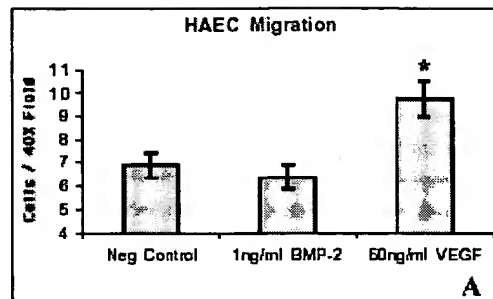
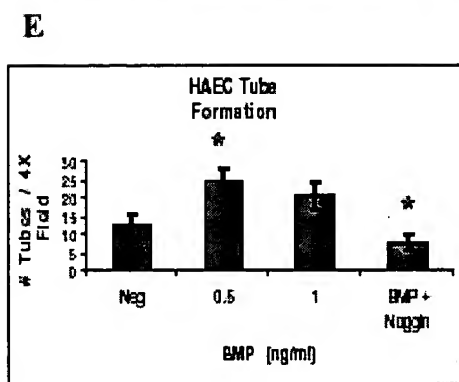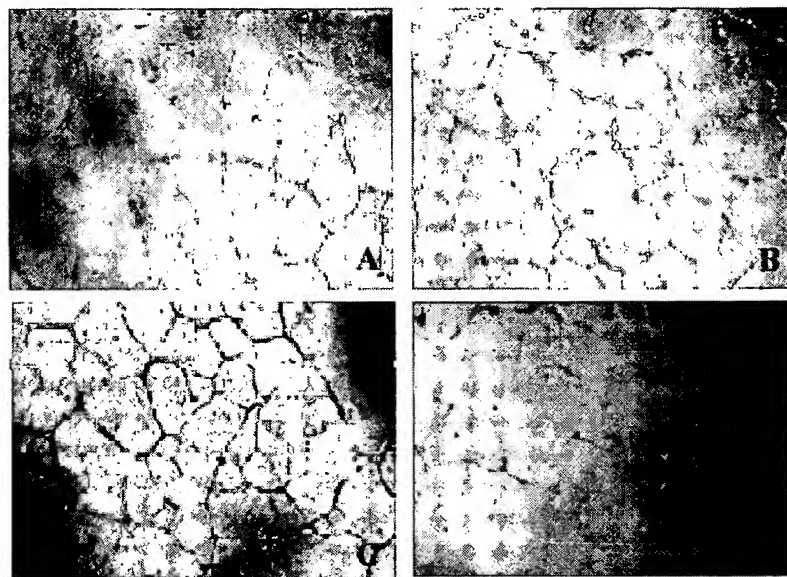# FIGURE 22

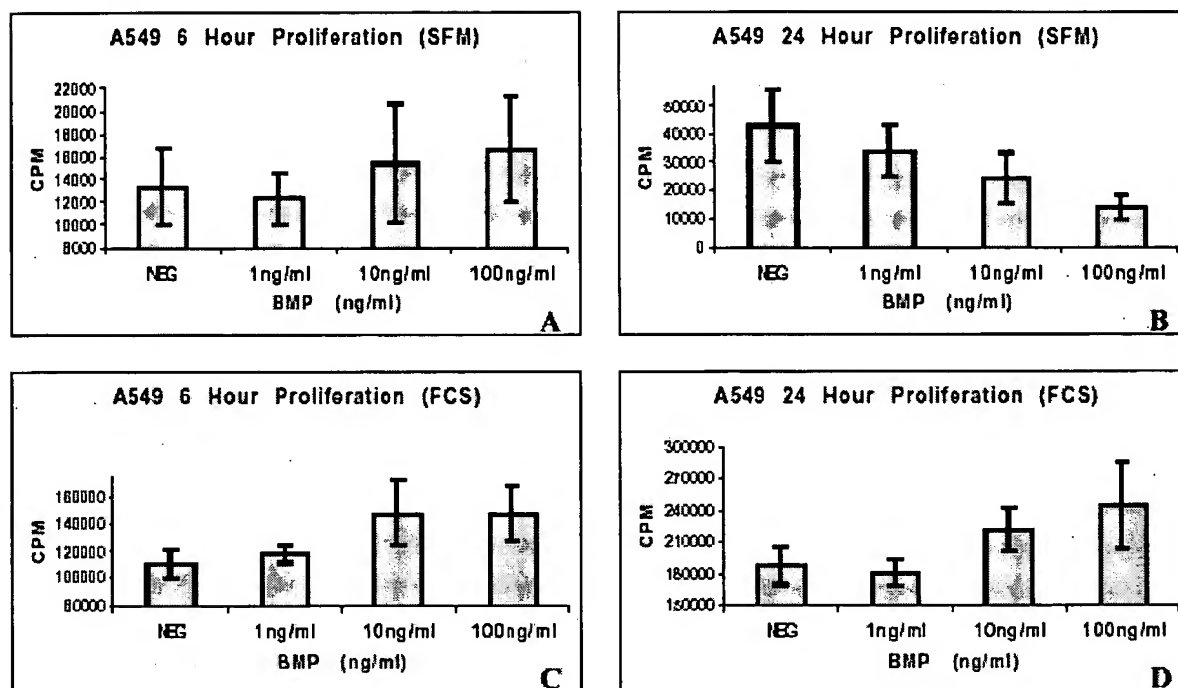# FIGURE 23

FIGURE 24

	5% FCS % Cells with Smad 1/5/8 Nuclear Staining	LHC-8 SFM % Cells with Smad 1/5/8 Nuclear Staining
Vehicle Control	3.3	2.0
15 Minutes	6.9	1.9
30 Minutes	18.0	2.5
120 Minutes	4.5	1.8

FIGURE 25

FIGURE 26